

## REMARKS/ARGUMENTS

The Office Action of June 25, 2004 has been carefully reviewed and this response addresses the Examiner's concerns stated in the Office Action. (Please note that Applicants' response, filed on Monday, September 27, 2004, falls within the shortened statutory period because September 25, 2004, fell on a Saturday.) All objections and rejections are respectfully traversed.

Claims 1-33 are still pending in the application. Claims 34-37 have been added to further define the invention. Examiner has withdrawn the prior art rejections and objections of record in response to Applicants' amendment, and Examiner has maintained the indicated allowability of claim 29 (and therefore its dependent claims). Claims 1-9, 11-28, and 30-31 have been amended to further define the invention and to correct terminology inconsistency, but not to overcome the prior art cited by Examiner. In particular, Applicants have further clarified the following features of the invention:

- (1) A unidirectional protocol. Applicants claim a unidirectional protocol in order to relieve the receiving device of the overhead required of a bi-directional protocol for the contextually relevant content transmitted by the sending device that is in physical proximity to the receiving device. A main component of Applicants' claimed unidirectional protocol is Applicants' claimed validity check that includes a checksum computed using values that are provided by the sending device to the receiving device – frame size, operator, and seed value – and are not agreed upon in advance of the unidirectional transmission.
- (2) Contextually relevant content and current context. Applicants claim at least one frame of data having contextually relevant content that is determined by the sending device. The receiving device has a current context derived from, for example, its physical location. Applicants claim a receiving device that can accept or ignore contextually relevant content that it receives through the unidirectional protocol based on how it compares to the current context of the receiving device.

On page 1, paragraph 1.4, Examiner states that Applicants arguments are persuasive to the extent that the approach whereby parsing as claimed is not specifically described the prior art references of record. Examiner states that Grooters, U.S. Patent No. 6,684,399, (Grooters) discloses a marked-up language parsing feature for broadcasting on a network in Fig. 3.

On page 1, paragraph 1.4.0 of the Office Action, Examiner notes that the following language has not been incorporated, as limitations, into all independent claims: "the message is broadcast, and any receiver can choose to accept or disregard the message depending on contents, not on TCP-type routing information."

On pages 1-2, paragraph 1.4.1 of the Office Action, Examiner notes that the following language has not been incorporated, as limitations, into all independent claims, e.g. claims 5, 16, and 25: "to transmit requires data special formatting."

### ***Claim Rejections - 35 USC § 101***

On page 2, paragraphs 2 and 2.1 of the Office Action, claims 28-33 are rejected under 35 U.S.C. § 101 as claiming "data signal" which is non-statutory subject matter. Applicants respectfully call Examiner's attention to *In re Beauregard*, 53 F.3d 1583 (Fed. Cir. 1995). In *Beauregard*, the appealed and finally allowed claims read on an article of manufacture (or computer program product) comprising a computer usable medium having computer readable program code means embodied therein for causing a list of functions. Applicants' computer-readable data signals in claims 28-33 are directed to a manufactured transient phenomenon, an data signal. This type of claim is analogous to a *Beauregard* claim in that it protects a computer-readable medium encoded with software.

### ***Claim Rejections - 35 USC § 112***

On page 2, paragraphs 3 and 3.1 of the Office Action, Examiner has rejected claims 1-4 under the first paragraph of 35 U.S.C. § 112 for failing to describe the manner in which the two instances of a broadcast signal are created and how the selection of the broadcast signal to be transmitted is performed. Examiner further states that claim 1 refers to two instances of generating a broadcast signal, one in the preamble 'containing' plural 'bytes' and one in the fifth limitation 'formed' out of a 'frame' and 'integrity element'. Applicants have amended claim 1 to provide terminology consistency.

On page 2, paragraph 3.2 of the Office Action, Examiner has rejected claims 1-4 under the second paragraph of 35 U.S.C. § 112. Examiner states that it is unclear how the two instances of a broadcast signal are created and how the selection of the broadcast signal to be transmitted is performed. Examiner further states that claim 1 refers to two instances of generating a broadcast signal, one in the preamble 'containing' plural 'bytes' and one in the fifth limitation 'formed' out of a 'frame' and 'integrity element'. Applicants have amended claim 1 to provide terminology consistency.

On page 3, paragraph 3.3 of the Office Action, Examiner has objected to claims 12 and 16. Examiner states that claim 12 refers to the terms "parsing said plurality" and claim 16 refers to the terms "therewith, therebetween", which, Examiner states, had not been previously defined. Applicants have amended claims 12 and 16 to clarify antecedent references and terminology.

### ***Claim Rejections - 35 USC § 103***

On pages 3-4, paragraph 4 of the Office Action, Examiner has rejected claims 1-3 under 35 U.S.C. § 103(a) as being unpatentable over RFC 793 – Transmission

Control Protocol Specification (TCP) in view of Grooters. Please note that claim 1 is the base claim for claims 2 and 3.

Applicants have amended claim 1 to further define the invention as follows:

Claim 1: (currently amended) A system for creating and transmitting a signal from a plurality of bytes through a communication medium to a receiving device, said system comprising:

means for parsing said plurality of bytes into at least one frame, said at least one frame having contextually relevant content;

. . .

means for transmitting said signal to said receiving device using a unidirectional protocol, said receiving device having a current context; and

means for comparing said current context to said contextually relevant content;

wherein said receiving device is capable of accepting or ignoring said at least one frame based on said means for comparing.

Applicants respectfully request Examiner to reconsider the rejection in light of Applicants' amendments which are underlined. To further Applicants' position of the patentability of amended claim 1 (and amended claims 2-4 that depend from amended claim 1), Applicants note the following.

With respect to claim 1, Examiner states

(a) that TCP substantially teaches of creating and transmitting data signals (i.e. segments/packets/frames) through a communication medium to receivers (paragraph 1 on page 4). Applicants respectfully point out that TCP teaches of transmitting data signals using a bi-directional protocol whereas Applicants amended claim 1 teaches transmitting a signal using a unidirectional protocol.

(b) that TCP teaches how the header and data are sent together as segments (i.e. broadcast signals) (paragraph 1, page 15). Applicants respectfully point out that Applicants' amended claim 1 teaches forming a signal from at least one frame and an integrity element and transmitting the frame using a unidirectional protocol. TCP teaches transmitting segments using a bi-directional protocol.

(c) that TCP further teaches of transmitting the signals over an established connection, hence TCP teaches the limitation of transmitting through communication medium to a device (paragraph 6, page 40). Applicants respectfully point out that Applicants amended claim 1 teaches transmitting a signal using a unidirectional protocol. TCP teaches transmitting a signal using a bi-directional protocol.

(d) that TCP does explicitly teach packeting or packaging bytes into frames (or packets) containing a subset of the bytes (paragraph 1, page 4), TCP fails to particularly mention the term "parsing". Examiner states that Grooters discloses a network communications wherein such techniques are described (Fig. 3, step 326 wherein parsing routine is executed for broadcasting data/HTML/markup-language/XML documents). Examiner states that it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the procedure in TCP by including therein a parsing technique as taught by Grooters, because such modification would provide the procedure disclosed in TCP with a technique where "content information is broken down and analyzed" (Fig. 3, step 326). Applicants respectfully note that Grooters is receiving and processing information that is already formatted, while Applicants are parsing information to create a frame and ultimately a data signal. Grooters accesses on-line (internet) program guides and augments them with transitory event information, also available from the internet. Applicants further note that one source of possible programming in Grooters is the internet itself, which can provide multimedia content. Grooters searches the internet for multimedia content and searches the multimedia content for indications that it is live. "In the event the multimedia content is not determined to be live content, a test parsing routine is executed at step 322 in which the content information is broken down and analyzed"

(col. 6, lines 16-19). In other words, Grooters is searching for certain content information formatted with tags such as XML tags, whereas Applicants' amended claim teaches a means for parsing a plurality of bytes into at least one frame that contains contextually relevant content. Grooters is receiving and processing information that is already formatted, while Applicants are parsing information to create a frame and ultimately a data signal.

Applicants respectfully point out that neither TCP nor Grooters discloses

- (1) means for parsing a plurality of bytes into at least one frame containing contextually relevant content;
- (2) means for transmitting a signal using a unidirectional protocol;
- (3) a receiving device that has a current context; or
- (4) means for comparing the current context to the contextually relevant content and ignoring the signal based on the comparison.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicants' disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Further, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. Since the TCP specification and Grooters, separately or in combination, do not teach or suggest each and every element of Applicants' amended

claim 1, either expressly or inherently, Applicants' amended claim 1 (as well as amended claims 2-4 that depend therefrom and that further define the invention) is not made obvious by the TCP specification and Grooters, and a rejection under 35 U.S.C. § 103(a) is inappropriate. Applicants assert that amended claim 1 (as well as amended claims 2-4 that depend therefrom) is now in condition for allowance. Applicants respectfully request the withdrawal of rejections under 35 U.S.C. § 103(a) with regards to amended claims 1-4 for the reasons set forth above.

Further remarks with regard to the patentable distinctions of Applicants' claimed invention in amended claims 2-4 over the TCP specification and Grooters are provided below.

Applicants have amended claim 2 to further define the invention as follows:

Claim 2: (previously presented) The system of claim 1 wherein said integrity element comprises:

a checksum;

a frame size value for said at least one frame,

...

Applicants respectfully request Examiner to reconsider the rejection in light of this amendment. To further Applicants' position of the patentability of amended claim 2, Applicants respectfully note the following.

With respect to dependent claim 2, which depends from independent claim 1, Examiner states

(a) that TCP/Grooters teaches of an integrity element (header) that comprises a size value (paragraph 2 on page 17). Applicants respectfully note that that the "TCP length is the TCP header length plus the data length in octets (*this is not an explicitly transmitted quantity, but is computed*), and it does not count the 12 octets of the pseudo header." (TCP specification, page 17) [Emphasis added] Applicants respectfully point out that Applicants amended claim teaches a frame size, Applicants claim the integrity

element as part of the signal to be transmitted, and thus Applicants' frame size *is* transmitted with the rest of the integrity element and frame.

(b) that it would have been obvious to one skilled in the art to include both the checksum operation and seed value if these values were not previously agreed upon by the communication devices. Applicants respectfully note that, as Examiner has pointed out, it is common to agree in advance on the parameters of checksum operation. Applicants have freed the sender and receiver of this necessity by allowing the sender to dictate the checksum operation parameters.

(c) that, with respect to the operator to compute the checksum, as is common in the art, checksums are typically calculated with XORs or summing in mod 2 arithmetic, and that the specifications do not teach of any checksum calculation techniques other than XOR when disclosing known techniques to calculate the checksum. Applicants respectfully point out that the reference to the XOR operator in the specification is in the form of an example: "Checksum value 407 is computed over the bytes making up a respective window 401a, 401b, 401c using known techniques such as exclusive ORing (XORing) each byte with its neighbor" (Applicants' specification, paragraph 79). Applicants can imagine other operators that could be used to calculate checksum, and Applicants' disclosure has not limited the invention to the XOR operator.

(d) that the need to transmit the operator along with the integrity element is not clear (especially if the only admitted operation is XOR), and it is further unclear why the checksum operation and seed values are not uniformly agreed upon beforehand so as to save bandwidth (i.e. have to transmit less bits) and save calculation time (i.e. immediately calculate checksum upon receiving as opposed to receiving the packet and read out the operation and then calculate the checksum). To clarify, Applicants have provided the flexibility for the sender to dictate the mathematical operator to be used and provide that to the receiver for the calculation of the checksum. Sender and receiver do not have to agree on the operator in advance.



Since the TCP specification does not teach or suggest each and every element of Applicants' amended claim 2, either expressly or inherently, Applicants' amended claim 2 is not made obvious by the TCP specification and a rejection under 35 U.S.C. § 103(a) is inappropriate. Applicants respectfully request that Examiner withdraw the rejection under 35 U.S.C. § 103(a) directed to amended claim 2 and find amended claim 2 in condition for allowance. As stated above, TCP/Grooters do not substantially teach the limitations of amended claim 1, from which amended claim 2 depends, and therefore Applicants assert that amended claim 2 is in condition for allowance.

With respect to dependent claim 3, which depends on independent claim 1, Examiner states that Grooters discloses marked-up-language/XML documents in Fig. 3 server 212 or network 222. Examiner states that equivalently, it would have been obvious to one skilled in the art to have the data signal contain an XML element. Examiner states that this is akin to a user on a network, possibly the Internet, requesting an XML document (which obviously contains XML elements), having the document framed (or packeted up) and transmitted off to the receiver. Examiner states that the data that the frame/packet contains can be comprised of almost any type of transferable data, (i.e. XML document with XML elements, HTML document etc.). Examiner refers to Grooters, Fig. 3 at step 326 wherein parsing routine is executed for broadcasting data/HTML/markup-language/XML documents.

Applicants respectfully note that at Fig. 3, step 326, Grooters discloses that "in the event it is determined that the content information refers to a scheduled live broadcast event, the content information is added to the program guide data at step 326, for example as an additional channel" (col. 6, lines 26-29). Nowhere does Grooters describe creating a signal that contains contextually relevant XML data. Applicants respectfully request that Examiner withdraw the rejection under 35 U.S.C. § 103(a) directed to amended claim 3 and find amended claim 3 to be in condition for allowance. Further, since Applicants assert that amended claim 1 is now in condition for allowance, amended claim 3, which depends on amended claim 1, is also in condition for allowance.

With respect to dependent claim 4, which depends from independent claim 1, on page 5, paragraph 4.1, of the Office Action, Examiner has rejected claim 4 under 35 U.S.C. § 103(a) as being unpatentable over TCP and Grooters in view of admitted prior art "Specifications" (Specs).

Applicants respectfully request that Examiner withdraw the rejection under 35 U.S.C. § 103(a) directed to amended claim 4 and find amended claim 4 in condition for allowance. As stated above, TCP/Grooters does not substantially teach the limitations of amended claim 1, from which amended claim 4 depends, and therefore amended claim 1, as well as amended claim 4, are in condition for allowance.

With respect to claims 5-9, on page 6, paragraph 4.2, of the Office Action, Examiner has rejected claims 5-9 under 35 U.S.C. § 103(a) as being unpatentable over TCP and Grooters.

Applicants have amended claim 5 to further define the invention as follows:

Claim 5: (currently amended) A system for receiving and utilizing a signal having a plurality of bytes comprising:

means for detecting a frame and an integrity element from said plurality of bytes, said frame containing contextually relevant information, said integrity element containing at least one parsable data structure;

. . .

means for ignoring said frame based on said contextually relevant information.

Applicants respectfully request Examiner to reconsider the rejection in light of this amendment. To further Applicants' position of the patentability of amended claim 5, Applicants respectfully note the following.

With respect to independent claim 5, Examiner states that it is clear that TCP teaches of determining the contents of the header and that TCP explicitly teaches of

using the checksum to disregard damaged packets (paragraph 3 on page 4).

Applicants respectfully note that TCP does not disclose

- (1) an integrity element containing at least one parsable data structure;  
and
- (2) means for ignoring said frame based on said contextually relevant information.

Since the TCP specification and Grooters do not teach or suggest each and every element of Applicants' amended claim 5, either expressly or inherently, Applicants' amended claim 5 (as well as amended claims 6-9 that depend therefrom and that further define the invention) is not made obvious by the TCP specification and Grooters and a rejection under 35 U.S.C. § 103(a) is inappropriate. Applicants' amended claim 5 (as well as amended claims 6-9 that depend therefrom) is now in condition for allowance. Therefore, Applicants respectfully request the withdrawal of rejections under 35 U.S.C. § 103(a) with regards to amended claims 5-9 for the reasons set forth above.

Further remarks with regard to the patentable distinctions of Applicants' claimed invention in amended claims 6-9 over the TCP specification and Grooters are provided below.

Applicants have amended claim 6 to further define the invention as follows:

Claim 6: (currently amended) The system of claim 5 wherein said integrity element comprises:

. . .

a seed value associated with said checksum value;  
an operator associated with said checksum value; and  
a frame size associated with said frame;

wherein said checksum value is based on said seed value, said operator, said frame size, and said frame.

Applicants respectfully request Examiner to reconsider the rejection in light of this amendment. To further Applicants' position of the patentability of amended claim 6, Applicants respectfully note the following.

With respect to claim 6, which depends from independent claim 5, Examiner states that TCP/Grooters substantially teaches, as noted above in claim 5, the limitations of claim 6, and that TCP further teaches of a checksum that is calculated over its associated frame/packet (pages 15-17, Checksum paragraph on page 16). Neither TCP nor Grooters teaches Applicants' amended claim teaching an integrity element that comprises a checksum, a seed value, an operator, and a frame size, where the checksum value is based on the seed value, the operator, the frame size, and the frame.

Since the TCP specification and Grooters do not teach or suggest each and every element of Applicants' amended claim 6, either expressly or inherently, Applicants' amended claim 6 is not made obvious by the TCP specification and Grooters and a rejection under 35 U.S.C. § 103(a) is inappropriate. Applicants respectfully request that Examiner withdraw the rejection under 35 U.S.C. § 103(a) directed to amended claim 6 and find amended claim 6 in condition for allowance. As stated above, TCP/Grooters do not substantially teach the limitations of amended claim 5, from which amended claim 6 depends, and therefore Applicants assert that amended claim 6 is in condition for allowance.

Applicants have amended claims 7 and 8 to further define the invention as follows:

Claim 7: (currently amended) The system of claim 6 wherein said means for testing validity comprises:

means for computing a received checksum value based on said seed value, said operator, said frame size, and said frame; and

. . .

Claim 8: (currently amended) The system of claim 6 wherein said means for testing validity comprises:

means for computing a received checksum value based on said seed value, said operator, said frame size, and said frame;

. . .

Applicants respectfully request Examiner to reconsider the rejection in light of this amendment. To further Applicants' position of the patentability of amended claims 7 and 8, Applicants respectfully note the following.

With respect to claims 7 and 8, which depend from dependent claim 6, which depends from independent claim 5, Examiner states that TCP/Grooters substantially teaches the limitations of claim 7, and that TCP further teaches of checking a checksum at the receiver to ensure that the segment is not damaged, and that if the checksum is calculated upon receipt and matches the transmitted checksum, then the packet will be validated, otherwise, when the two checksums don't match, the "damaged" one will be discarded or invalidated (paragraph 3 on page 4). Applicants respectfully point out that TCP/Grooters do not disclose Applicants' claimed means for computing a received checksum value based on the received seed value, the received operator, the received frame size, and the received frame.

Since the TCP specification and Grooters do not teach or suggest each and every element of Applicants' amended claims 7 and 8, either expressly or inherently, Applicants' amended claims 7 and 8 are not made obvious by the TCP specification and Grooters and a rejection under 35 U.S.C. § 103(a) is inappropriate. Applicants respectfully request that Examiner withdraw the rejection under 35 U.S.C. § 103(a) directed to amended claims 7 and 8 and find amended claims 7 and 8 in condition for

allowance. As stated above, TCP/Grooters do not substantially teach the limitations of amended claims 5 or 6, from which amended claims 7 and 8 depend, and therefore Applicants assert that amended claims 7 and 8 are in condition for allowance.

Applicants have amended claim 9 to further define the invention as follows:

Claim 9: (currently amended) The system of claim 6 wherein said operator identifies a mathematical operator.

Applicants respectfully request Examiner to reconsider the rejection in light of this amendment. To further Applicants' position of the patentability of amended claim 9, Applicants respectfully note the following.

With respect to claim 9, which depends from dependent claim 6, which depends from independent claim 5, Examiner states

(a) that it is common to calculate checksums with XOR or mod 2 arithmetic. Examiner states that the specifications do not teach any checksum calculation techniques other than XOR when disclosing known techniques to calculate the checksum, and therefore the need to transmit the operator along with the integrity element is not clear. Applicants respectfully note that TCP/Grooters do not disclose Applicants' claimed integrity element containing a mathematical operator. Applicants have provided the flexibility for the sender to dictate the mathematical operator to be used and provide that to the receiver for the calculation of the checksum. Sender and receiver do not have to agree on the operator in advance.

(b) that it is not clear why the checksum operation and seed values are not uniformly agreed upon beforehand so as to save bandwidth. To clarify, Applicants respectfully point out that the validity checking operation is not agreed upon in advance to add more flexibility to the system. For example, if a computer architecture happens to optimize one operation over another, Applicants' invention can accommodate the use

of the more optimum operation by simply including a reference to the operation in Applicants' claimed integrity element.

Since the TCP specification and Grooters do not teach or suggest each and every element of Applicants' amended claim 9, either expressly or inherently, Applicants' amended claim 9 is not made obvious by the TCP specification and Grooters and a rejection under 35 U.S.C. § 103(a) is inappropriate. Applicants respectfully request that Examiner withdraw the rejection under 35 U.S.C. § 103(a) directed to amended claim 9 and find amended claim 9 in condition for allowance. As stated above, TCP/Grooters do not substantially teach the limitations of amended claims 5 or 6, from which amended claim 9 depends, and therefore Applicants assert that amended claim 9 is in condition for allowance.

With respect to claims 10 and 11, on page 8, paragraph 4.3, of the Office Action, Examiner has rejected claim 10 and claim 11 under 35 U.S.C. § 103(a) as being unpatentable over TCP and Grooters in view of admitted prior art Specs.

With respect to claim 10, which depends from independent claim 5, Examiner states that TCP/Grooters, as noted above in claim 5, substantially teach the limitations of claim 10; and that TCP/Grooters does not teach of transmitting the signal as a diffuse infrared signal. Examiner states that TCP/Grooters teaches of establishing communication connections. Examiner states that Specs, in an analogous art, teaches of diffuse optical communication as a common optical communication protocol (lines 3-6, paragraph 88 on page 28); and that it would have been obvious to one skilled in the art to transmit packet of TCP using optical communication protocol. Examiner states that one skilled in the art would have been motivated by the suggestion provided by Specs that diffuse optical communication protocol is a commonly used protocol and hence communication method.

With respect to claim 11, which depends from dependent claim 10, which depends from independent claim 5, Examiner states that TCP/Grooters, as noted above

in claim 5 and later in claim 10, substantially teaches the limitations of claim 11. Examiner states that TCP/Grooters does not teach of data signal being created by modulating an electric light. Examiner states that Specs, in an analogous art, teaches of modulating an electric light to generate optical signals as being known in the art (lines 1-5, paragraph 161 on page 55). Examiner states that it would have been obvious to one with skill in the art to create packets of TCP by modulating an electric light.

Since the TCP specification and Grooters do not teach or suggest each and every element of Applicants' amended claim 5, either expressly or inherently, Applicants' amended claim 5, and therefore its dependent amended claims 10 and 11, are not made obvious by the TCP specification and Grooters and a rejection under 35 U.S.C. § 103(a) is inappropriate. Applicants respectfully request that Examiner withdraw the rejection under 35 U.S.C. § 103(a) directed to amended claims 10 and 11 and find amended claims 10 and 11 in condition for allowance.

On page 10, paragraph 4.4, of the Office Action, Examiner has rejected claims 12, 13, and 15 under 35 U.S.C. § 103(a) as being unpatentable over TCP in view of Grooters.

Applicants have amended independent claim 12 to further define the invention as follows:

Claim 12: (currently amended) A method for creating and transmitting a data signal to a handheld device comprising the steps of:

parsing a plurality of bytes into at least one frame, the at least one frame containing contextually relevant content;

. . .

providing the data signal to a transmitter for transmission to a handheld device through a communication medium, the handheld device having a current context, comparing the current context with the contextually relevant content; and ignoring the at least one frame based on said step of comparing.



Applicants respectfully request Examiner to reconsider the rejection in light of this amendment. To further Applicants' position of the patentability of amended claim 12, Applicants respectfully note the following.

With respect to independent claim 12, Examiner states

(a) that TCP substantially teaches of creating and transmitting data signals (i.e. packets/frames) through a communications medium to receivers (paragraph 1 on page 4). Applicants respectfully point out that TCP does not teach Applicants' amended claim that teaches creating and transmitting a data signal containing contextually relevant content to a handheld device

(b) that TCP teaches of transmitting the signals over an established connection, hence TCP teaches the limitation of transmitting through communication medium to the device (paragraph on page 40). Applicants respectfully point out that TCP does not teach Applicants' amended claim of transmitting the data signal to a handheld device having a current context.

(c) that TCP explicitly teaches packeting or packaging bytes into frames (or packets) containing a subset of the bytes (paragraph 1 of page 4), but TCP fails to particularly mention the term: "parsing". Examiner states that Grooters discloses a network communications wherein such techniques are described (Fig. 3, step 326 wherein parsing routine is executed for broadcasting data/HTML/markup-language/SML documents). Examiner states that it would have been obvious to a person skilled in the art to modify the procedure in TCP by including therein a parsing technique as taught by Grooters, because such modification would provide the procedure disclosed in TCP with a technique whereby "content information is broken down and analyzed" (Fig. 3, step 326). Applicants respectfully reiterate that the parsing of Grooters is for the purpose of reading data that were located by searching the internet. Neither TCP nor Grooters discloses Applicants' claimed parsing a plurality of bytes into at least one frame, i.e.,

creating a frame of data, containing contextually relevant content that is compared to the current context of the handheld device.

(d) that TCP/Grooters does not does not explicitly teach of making the transmission available for handheld devices. Examiner states that it would have been obvious to one skilled in the art to make the broadcast signal available for a handheld device. Applicants respectfully point out that neither TCP nor Grooters discloses Applicants' amended claim teaching transmitting a data signal to a handheld device having a current context.

Since the TCP specification and Grooters do not teach or suggest each and every element of Applicants' amended claim 12, either expressly or inherently, Applicants' amended claim 12 is not made obvious by the TCP specification and Grooters and a rejection under 35 U.S.C. § 103(a) is inappropriate. Applicants respectfully request that Examiner withdraw the rejection under 35 U.S.C. § 103(a) directed to amended claim 12 and find amended claim 12 in condition for allowance.

Further remarks with regard to the patentable distinctions of Applicants' claimed invention in dependent amended claims 13-15 over the TCP specification and Grooters are provided below.

With respect to claim 13, which depends on claim 12, Examiner states that Grooters discloses marked-up-language/XML documents in Fig. 3 server 212 or network 222. Examiner states that it would have been obvious to one of skill in the art to have the data signal contain an XML element. Examiner states that this is akin to a user on a network, possibly the Internet, requesting an XML document (which obviously contains XML elements), having the document framed (or packeted up) and transmitted off to the receiver. Examiner states that the frame/packet can be comprised of almost any type of transferable data. Applicants note that, as stated above, Grooters searches documents that contain XML elements, but does not create at least one frame containing contextually relevant content.

Since the TCP specification and Grooters do not teach or suggest each and every element of Applicants' amended claim 13, either expressly or inherently, Applicants' amended claim 13 is not made obvious by the TCP specification and Grooters and a rejection under 35 U.S.C. § 103(a) is inappropriate. Applicants respectfully request that Examiner withdraw the rejection under 35 U.S.C. § 103(a) directed to amended claim 13 and find amended claim 13 in condition for allowance. As stated above, TCP/Grooters do not substantially teach the limitations of amended claim 12, from which amended claim 13 depends, and therefore Applicants assert that amended claim 13 is in condition for allowance.

Applicants have amended independent amended claim 15 to further define the invention as follows:

Claim 15: (currently amended) The method of claim 12 further comprising the step of:  
forming the integrity element from:

a frame size for the at least one frame, the frame size having been used in the determination of the checksum value;

. . .

Applicants respectfully request Examiner to reconsider the rejection in light of this amendment. To further Applicants' position of the patentability of amended claim 15, Applicants respectfully note the following.

With respect to claim 15, which depends on claim 12, Examiner states

(a) that TCP teaches of a integrity element (header) that comprises a size value (paragraph 2 on page 17) where the TCP length is described. Applicants respectfully reiterate that that the "TCP length is the TCP header length plus the data length in octets (*this is not an explicitly transmitted quantity, but is computed*), and it does not count the 12 octets of the pseudo header." (TCP specification, page 17) [Emphasis added] Applicants respectfully point out that Applicants' amended claim teaches a frame size, Applicants claim the integrity element as part of the signal to be transmitted,

and thus Applicants' frame size *is* transmitted with the rest of the integrity element and frame.

(b) that it would have been obvious to one skilled in the art to include both the checksum operation and seed value. Applicants respectfully note that, as Examiner has pointed out, it is common to agree in advance on the parameters of checksum operation. Applicants have freed the sender and receiver of this necessity by allowing the sender to dictate the checksum operation parameters.

(c) that checksums are typically calculated with XORs or summing in mod 2 arithmetic. Examiner states that the specifications do not teach of any checksum calculation techniques other than XOR when speaking of known techniques to calculate the checksum. Applicants respectfully point out that the reference to the XOR operator in the specification is in the form of an example: "Checksum value 407 is computed over the bytes making up a respective window 401a, 401b, 401c using known techniques such as exclusive ORing (XORing) each byte with its neighbor" (Applicants' specification, paragraph 79). Applicants can imagine other operators that could be used to calculate checksum, and Applicants' claims have not limited the invention to the XOR operator.

(d) that the need to transmit the operator along with the integrity element is not clear (especially if the only admitted operation is XOR). Examiner states that it is understood that checksum can be calculated various specific ways (i.e. CRC)), the operator used is typically the XOR. To clarify, Applicants have provided the flexibility for the sender to dictate the mathematical operator to be used and provide that to the receiver for the calculation of the checksum. Sender and receiver do not have to agree on the operator in advance.

Since the TCP specification does not teach or suggest each and every element of Applicants' amended claim 15, either expressly or inherently, Applicants' amended claim 15 is not made obvious by the TCP specification and a rejection under 35 U.S.C.

§ 103(a) is inappropriate. Applicants respectfully request that Examiner withdraw the rejection under 35 U.S.C. § 103(a) directed to amended claim 15 and find amended claim 15 in condition for allowance. As stated above, TCP/Grooters do not substantially teach the limitations of amended claim 12, from which amended claim 15 depends, and therefore Applicants assert that amended claim 15 is in condition for allowance.

With respect to claim 14, which depends from independent claim 12, on page 12, paragraph 4.5, of the Office Action, Examiner has rejected claim 14 under 35 U.S.C. § 103(a) as being unpatentable over TCP and Grooters in view of admitted prior art Specs.

Examiner states that TCP/Grooters substantially teaches the limitations of claim 14. Examiner states that TCP/Grooters does not teach of transmitting the signal as a diffuse infrared signal; and that TCP/Grooters teaches of establishing communication connections; and that Specs, in an analogous art, teaches of diffuse optical communication as a common optical communication protocol (paragraph 88 on page 28); and that it would have been obvious to one skilled in the art to transmit a frames/packets/broadcast signal of TCP data using optical communication protocol; and that one skilled in the art would have been motivated by the suggestion provided by Specs that diffuse optical communication protocol is a commonly used protocol and hence communication method.

As stated above, TCP/Grooters do not substantially teach the limitations of amended claim 12, from which amended claim 14 depends, and therefore Applicants assert that amended claim 14 is in condition for allowance.

With respect to claims 16-19, on page 13, paragraph 4.6, of the Office Action, Examiner has rejected claims 16-19 under 35 U.S.C. § 103(a) as being unpatentable over TCP and Grooters.

Applicants have amended independent claim 16 to further define the invention as follows:

Claim 16: (currently amended) A method for validating an incoming data stream of comprising the steps of:

receiving the incoming data stream having a plurality of bytes organized into at least one frame, the incoming data stream being associated with an integrity element, the integrity element including a seed value, an operator, a frame size, and a first checksum value;

computing a second checksum value from the plurality of bytes within the at least one frame, the second checksum value being based on the seed value, the operator, the frame size, and the at least one frame; and

. . .

Applicants respectfully request Examiner to reconsider the rejection in light of this amendment. To further Applicants' position of the patentability of amended claim 16, Applicants respectfully note the following.

With respect to independent claim 16, Examiner states

(a) that TCP further teaches of creating frames/packets and headers (integrity elements) to transmit data (paragraph 1 on page 4, pages 15-17). Applicants respectfully point out that TCP does not disclose Applicants' amended claim that teaches an incoming data stream associated with an integrity element that includes a seed value, an operator, a frame size, and a first checksum.

(b) that TCP teaches of a checksum that is calculated over its associated frame/packet (pages 15-17, Checksum paragraph, page 16). Applicants respectfully point out that TCP does not disclose Applicants' amended claim that teaches computing a second checksum value that is based on the seed value, the operator, the frame size, those values being a part of Applicants' claimed integrity element that is part of Applicant's claimed incoming data stream, and the at least one frame.

(c) that TCP explicitly teaches packeting or packaging bytes into frames (or packets) containing a subset of the bytes (paragraph 1 of page 4) and means to reverse

such frame packeting or packaging, TCP fails to particularly mention that such frame reversal is for reverting a "parsing" routine. Examiner states that Grooters discloses a network communications wherein such techniques are described (Fig.3, step 326, wherein parsing routing/reversal-thereof is executed for broadcasting data/HTML/markup-language/XML documents). Applicants respectfully point out that Applicants' amended claim 16 does not teach of parsing.

Since the TCP specification and Grooters do not teach or suggest each and every element of Applicants' amended claim 16, either expressly or inherently, Applicants' amended claim 16 is not made obvious by the TCP specification and Grooters and a rejection under 35 U.S.C. § 103(a) is inappropriate. Applicants respectfully request that Examiner withdraw the rejection under 35 U.S.C. § 103(a) directed to amended claim 16 and find amended claim 16 (and amended claims 17-19 which depend on amended claim 16) in condition for allowance.

Further remarks with regard to the patentable distinctions of Applicants' amended claims 17-19 over the TCP specification and Grooters are provided below.

With respect to dependent claim 17, which depends from independent claim 16, Examiner states that Grooters discloses marked-up-language/XML documents in Fig. 3 server 212 or network 222. Examiner states that it would have obvious to one skilled in the art to have the data signal contain an XML element. Examiner states that the frame/packet can be comprised of almost any type of electronically transferable data.

With respect to dependent claim 18, which depends from independent claim 16, Examiner states that TCP teaches of discarding the frames/packets/segments if the checksums do not match (paragraph 3 on page 4).

Applicants respectfully request that Examiner withdraw the rejection under 35 U.S.C. § 103(a) directed to amended claims 17 and 18 and find amended claims 17 and 18 in condition for allowance. As stated above, TCP/Grooters does not substantially teach the limitations of amended claim 16, from which amended claim 17 depends, and

therefore amended claim 16, as well as amended claims 17 and 18, are in condition for allowance.

Applicants have amended independent claim 19 to further define the invention as follows:

Claim 19: (currently amended) The method of claim 16 further comprising the step of:  
identifying a mathematical operator as the operator.

Applicants respectfully request Examiner to reconsider the rejection in light of this amendment. To further Applicants' position of the patentability of amended claim 19, Applicants respectfully note the following.

With respect to dependent claim 19, which depends from independent claim 16, Examiner states

(a) that it is common to calculate checksums with XOR or mod 2 arithmetic. Examiner states that the specifications do not teach any checksum calculation techniques other than XOR when disclosing known techniques to calculate the checksum, and therefore the need to transmit the operator along with the integrity element is not clear. Examiner states that it is not clear why the checksum operation and seed values are not uniformly agreed upon beforehand so as to save bandwidth. Applicants respectfully note that TCP does not disclose Applicants' claimed integrity element that contains a mathematical operator. Applicants have provided the flexibility for the sender to dictate the mathematical operator to be used and provide that to the receiver for the calculation of the checksum. Sender and receiver do not have to agree on the operator in advance.

(b) that it is not clear why the checksum operation and seed values are not uniformly agreed upon beforehand so as to save bandwidth. Applicants respectfully



point out that the validity checking operation is not agreed upon in advance to add more flexibility to the system. For example, if a computer architecture happens to optimize one operation over another, Applicants' invention can accommodate the use of the more optimum operation by simply including a reference to the operation in Applicants' claimed integrity element.

Since the TCP specification and Grooters do not teach or suggest each and every element of Applicants' amended claim 19, either expressly or inherently, Applicants' amended claim 19 is not made obvious by the TCP specification and Grooters and a rejection under 35 U.S.C. § 103(a) is inappropriate. Applicants respectfully request that Examiner withdraw the rejection under 35 U.S.C. § 103(a) directed to amended claim 19 and find amended claim 19 in condition for allowance. As stated above, TCP/Grooters do not substantially teach the limitations of amended claim 16, from which amended claim 19 depends, and therefore Applicants assert that amended claim 19 is in condition for allowance.

On page 16, paragraph 4.7, of the Office Action, Examiner has rejected claims 20-22 under 35 U.S.C. § 103(a) as being unpatentable over TCP and Grooters.

Applicants have amended independent claim 20 to further define the invention as follows:

Claim 20: (currently amended) A method for creating a data signal at a source device having a transmitter associated therewith, said method comprising the steps of:

receiving service data from at least one service provider;

filtering the service data to create contextually relevant information;

formatting the contextually relevant information according to a pre-selected data structure language;

grouping the formatted contextually relevant information into at least one frame;

. . .

parsing the at least one frame using the pre-selected data structure language to retrieve the contextually relevant information.

Applicants respectfully request Examiner to reconsider the rejection in light of this amendment. To further Applicants' position of the patentability of amended claim 20, Applicants respectfully note the following.

With respect to independent claim 20, Examiner states that TCP further teaches of packaging bytes into packets containing a subset of the bytes (paragraph on page 4). Applicants respectfully point out that TCP does not teach

- (1) grouping the formatted contextually relevant information into at least one frame;
- (2) receiving service data from at least one service provider and filtering the service data to create contextually relevant information;
- (3) formatting the contextually relevant information according to a pre-selected data structure language; or
- (4) parsing the at least one frame using the pre-selected data structure language to retrieve the contextually relevant information.

Since the TCP specification does not teach or suggest each and every element of Applicants' amended claim 20, either expressly or inherently, Applicants' amended claim 20 is not made obvious by the TCP specification and a rejection under 35 U.S.C. § 103(a) is inappropriate. Applicants respectfully request that Examiner withdraw the rejection under 35 U.S.C. § 103(a) directed to amended claim 20 and find amended claim 20 in condition for allowance.

Applicants have amended dependent claim 21 to further define the invention as follows:

Claim 21: (currently amended) The method of claim 20 further comprising the step of:  
forming the integrity element from parameters including:

a frame size for said at least one frame, the frame size being used in the  
determination of the checksum value;

. . . .

Applicants respectfully request Examiner to reconsider the rejection in light of this amendment. To further Applicants' position of the patentability of amended claim 21, Applicants respectfully note the following.

With respect to dependent claim 21, which depends on independent claim 20, Examiner states

(a) that TCP teaches of a header that comprises a size value (paragraph 2 on page 17) where the TCP length is described. Applicants respectfully note that that the "TCP length is the TCP header length plus the data length in octets (*this is not an explicitly transmitted quantity, but is computed*), and it does not count the 12 octets of the pseudo header." (TCP specification, page 17) [Emphasis added] Applicants respectfully point out that Applicants amended claim teaches a frame size, Applicants claim the integrity element as part of the signal to be transmitted, and thus Applicants' frame size *is* transmitted with the rest of the integrity element and frame.

(b) that it would have been obvious to one with skill in the art to include both the checksum operation and seed value if these values were not previously agreed upon by the communication devices. Applicants respectfully note that, as Examiner has pointed out, it is common to agree in advance on the parameters of checksum operation. Applicants have freed the sender and receiver of this necessity by allowing the sender to dictate the checksum operation parameters.

(c) that it is common to calculate checksums with XOR or mod 2 arithmetic. Examiner states that the specifications do not teach any checksum calculation techniques other than XOR when disclosing known techniques to calculate the

checksum. Applicants respectfully point out that the reference to the XOR operator in the specification is in the form of an example: "Checksum value 407 is computed over the bytes making up a respective window 401a, 401b, 401c using known techniques such as exclusive ORing (XORing) each byte with its neighbor" (Applicants' specification, paragraph 79). Applicants can imagine other operators that could be used to calculate checksum, and Applicants' claims have not limited the invention to the XOR operator.

(d) that the need to transmit the operator along with the integrity element is not clear, and it is further unclear why the checksum operation and seed values are not uniformly agreed upon beforehand so as to save bandwidth. To clarify, Applicants have provided the flexibility for the sender to dictate the mathematical operator to be used and provide that to the receiver for the calculation of the checksum. Sender and receiver do not have to agree on the operator in advance.

Since the TCP specification does not teach or suggest each and every element of Applicants' amended claim 21, either expressly or inherently, Applicants' amended claim 21 is not made obvious by the TCP specification and a rejection under 35 U.S.C. § 103(a) is inappropriate. Applicants respectfully request that Examiner withdraw the rejection under 35 U.S.C. § 103(a) directed to amended claim 21 and find amended claim 21 in condition for allowance. As stated above, TCP/Groeters do not substantially teach the limitations of amended claim 20, from which amended claim 21 depends, and therefore Applicants assert that amended claim 21 is in condition for allowance.

With respect to claim 22, which depends from claim 20, Examiner states that it would have been obvious to one of skill in the art to have the data signal contain an XML element. Examiner states that the frame/packet can be comprised of almost any type of transferable data. Applicants agree that almost any type of electronically transferable data could be included in Applicants' frame.

Applicants respectfully request that Examiner withdraw the rejection under 35 U.S.C. § 103(a) directed to amended claim 22 and find amended claim 22 in condition for allowance. As stated above, TCP does not substantially teach the limitations of amended claim 20, from which amended claim 22 depends, and therefore amended claim 20, as well as amended claim 22, are in condition for allowance

On page 18, paragraph 4.8, of the Office Action, Examiner has rejected claims 23-24 under 35 U.S.C. § 103(a) as being unpatentable over TCP and Grooters in view of admitted prior art Specs.

With respect to claim 23, which depends from claim 20, Examiner states that TCP substantially teaches the limitations of claim 23. Examiner states that TCP does not teach of transmitting the signal as a diffuse infrared signal. Examiner states that TCP teaches of establishing communication connections. Examiner states that Specs, in an analogous art, teaches of diffuse optical communication as a common optical communication protocol (paragraph 88 on page 28). Examiner states that it would have been obvious to one skilled in the art to transmit packet of TCP using optical communication protocol. Examiner states that one skilled in the art would have been motivated by the suggestion provided by Specs that diffuse optical communication protocol is a commonly used protocol and hence communication method.

With respect to claim 24, which depends from claim 20, Examiner states that TCP/Grooters substantially teaches the limitations of claim 24. Examiner states that TCP/Grooters does not teach of data signal being created by modulating an electric light. Examiner states that Specs, in an analogous art, teaches of modulating an electric light to generate optical signals as being known in the art (lines 1-5, paragraph 161 on page 55). Examiner states that it would have been obvious to one skilled in the art to create packets of TCP by modulating an electric light.

Since the TCP specification does not teach or suggest each and every element of Applicants' amended claim 20, either expressly or inherently, Applicants' amended

claim 20, and therefore its dependent amended claims 23 and 24, are not made obvious by the TCP specification and Grooters and a rejection under 35 U.S.C. § 103(a) is inappropriate. Applicants respectfully request that Examiner withdraw the rejection under 35 U.S.C. § 103(a) directed to amended claims 23 and 24 and find amended claims 23 and 24 in condition for allowance.

On page 20, paragraph 4.9, of the Office Action, Examiner has rejected claims 25-27 under 35 U.S.C. § 103(a) as being unpatentable over TCP and Grooters.

Applicants have amended independent claim 25 to further define the invention as follows:

Claim 25: (currently amended) A method for receiving and utilizing a data signal having a plurality of bytes, said method comprising the steps of:

detecting an integrity element encapsulating the plurality of bytes, the plurality of bytes having been organized into a frame, the frame containing contextually relevant information; and

determining validity of the frame based on the integrity element and the frame, the integrity element including a seed value, an operator, a first checksum value, and a frame size.

Applicants respectfully request Examiner to reconsider the rejection in light of this amendment. To further Applicants' position of the patentability of amended claim 25, Applicants respectfully note the following.

With respect to claim 25, Examiner states

(a) that TCP substantially teaches of exchanging (and hence transmitting and receiving) segments/packets/data signals having a plurality of bytes (paragraph 1 on page 4, paragraph 6 on page 40), and that TCP further teaches of creating packets and headers to transmit data (paragraph 1 on page 4, pages 15-17), and that TCP teaches using the checksum to ensure reliability (paragraph 3 on page 4), and that by teaching

of creating the data and communicating/transferring it in a specific manner, Examiner is interpreting that TCP is teaching of both how to send and how to receive data.

Examiner states that it is clear that if TCP teaches of how to create packets and associated headers and how to combine the packets and headers (i.e. append the header to the packet), then TCP teaches how to detect and separate packets as well. Applicants respectfully point out that TCP does not disclose Applicants' claimed frame containing contextually relevant information.

(b) that it is clear that TCP teaches of determining the contents of the header and that TCP explicitly teaches of using the checksum to disregard damaged packets (paragraph 3 on page 4). Applicants respectfully point out that TCP does not disclose Applicants' claimed determining validity of the frame based on the integrity element and the frame, where the integrity element includes a seed value, an operator, a first checksum value, and a frame size.

(c) that TCP explicitly teaches packeting or packaging bytes into frames (or packets) containing a subset of the bytes (paragraph 1 of page 4) and means to reverse such frame packeting or packaging, TCP fails to particularly mention that such frame reversal is for reverting a "parsing" routine. Examiner states that Grooters discloses a network communications where such techniques are described (Fig. 3 at step 326 wherein parsing routine/reversal-thereof is executed for broadcasting data/HTML/markup-language/XML documents). Applicants request clarification of this rejection. Applicants' claim 25 does not include parsing.

Since the TCP specification and Grooters do not teach or suggest each and every element of Applicants' amended claim 25, either expressly or inherently, Applicants' amended claim 25 (as well as amended claims 26 and 27 that depend therefrom and that further define the invention) is not made obvious by the TCP specification and Grooters and a rejection under 35 U.S.C. § 103(a) is inappropriate. Applicants' amended claim 25 (as well as amended claims 26 and 27 that depend therefrom) is now in condition for allowance. Therefore, Applicants respectfully request

the withdrawal of rejections under 35 U.S.C. § 103(a) with regards to amended claims 25-27 for the reasons set forth above.

Further remarks with regard to the patentable distinctions of Applicants' claimed invention in amended claims 26 and 27 over the TCP specification and Grooters are provided below.

Applicants have amended dependent claims 26 and 27 to further define the invention as follows:

Claim 26: (currently amended) The method of claim 25 wherein said step of determining the validity further comprises the steps of:

computing a second checksum value based on the seed value, the operator, the frame size, and the frame; and

. . .

Claim 27: (currently amended) The method of claim 25 wherein said step of determining the validity further comprises the steps of:

computing a second checksum value based on the seed value, the operator, the frame size, and the frame; and

. . .

Applicants respectfully request Examiner to reconsider the rejection in light of this amendment. To further Applicants' position of the patentability of amended claims 26 and 27, Applicants respectfully note the following.

With respect to claims 26 and 27, which each depend from claim 25, Examiner states that TCP further teaches of checking a checksum at the receiver to ensure that the segment is not damaged (paragraph 3 on page 4). Examiner states that if the checksum is calculated upon receipt and matches the transmitted checksum, then the packet will be validated, otherwise, when the two checksums don't match, the



"damaged" one will be discarded or invalidated. Applicants respectfully point out that TCP does not disclose Applicants' claimed computing a second checksum value based on the seed value, the operator, the frame size, and the frame.

Since the TCP specification and Grooters do not teach or suggest each and every element of Applicants' amended claims 26 and 27, either expressly or inherently, Applicants' amended claims 26 and 27 are not made obvious by the TCP specification and Grooters and a rejection under 35 U.S.C. § 103(a) is inappropriate. Applicants' amended claims 26 and 27 are now in condition for allowance. Therefore, Applicants respectfully request the withdrawal of rejections under 35 U.S.C. § 103(a) with regards to amended claims 25-27 for the reasons set forth above. Further, since the TCP specification and Grooters do not teach or suggest each and every element of Applicants' amended claim 25, either expressly or inherently, Applicants' amended claim 25, and therefore its dependent amended claims 26 and 27, are not made obvious by the TCP specification and Grooters and a rejection under 35 U.S.C. § 103(a) is inappropriate.

On page 21, paragraph 4.10, of the Office Action, Examiner has rejected claims 28 and 30-31 under 35 U.S.C. § 103(a) as being unpatentable over TCP and Grooters.

Applicants have amended dependent claim 28 to further define the invention as follows:

Claim 28: (currently amended) A computer-readable data signal for modifying the operation of a receiving device, said data signal comprising:

a at least one frame containing contextually relevant information, said at least one frame being capable of modifying the operation of the receiving device when the receiving device receives and processes said at least one frame; and

an integrity element associated with said at least one frame, said integrity element containing a first checksum value determined from said at least one frame, said first checksum for validating the contents of said at least one frame, said validating

being successful if a second checksum value computed over said at least one frame at said receiving device matches said first checksum value.

Applicants respectfully request Examiner to reconsider the rejection in light of this amendment. To further Applicants' position of the patentability of amended claim 28, Applicants respectfully note the following.

With respect to claim 28, Examiner states that TCP substantially teaches of creating and transmitting data signals (i.e. packets/frames) through a communications medium to receivers (paragraph 1 on page 4). Examiner states that TCP/Grooters does not explicitly teach of the data signal being used to modify the operation of the receiving device. Examiner states that TCP teaches of the use of acknowledgements (ACKs) to inform the sender that a packet has been received (paragraph 1 on page 10). Examiner states that TCP teaches of the use of PUSH commands (paragraphs 5-7 on page 12) to change (modify) the operation of the receiver to "push" the data immediately. Examiner states that TCP teaches of modifying the operation of the receiver (and sender too) through the use of ACKs to inform the receiver to send newer, or older, segments, and through the use of PUSH commands to pass the data on immediately. Applicants respectfully point out that the ACK and PUSH commands of TCP are part of the header information that Examiner equates to Applicants' integrity element. The TCP data, which is anything that is not TCP header (see section 3.1, page 15), is not used for modifying the operation of the receiving device. "The term packet is used generically here to mean the data of one transaction between a host and its network. The format of data blocks exchanged within the network will generally not be of concern to us" (TCP page 7, section 2.1).

Since the TCP specification and Grooters do not teach or suggest each and every element of Applicants' amended claim 28, either expressly or inherently, Applicants' amended claim 28 (as well as amended claims 30 and 31 that depend therefrom and that further define the invention) is not made obvious by the TCP

specification and Grooters and a rejection under 35 U.S.C. § 103(a) is inappropriate. Applicants' amended claim 28 (as well as amended claims 30 and 31 that depend therefrom) is now in condition for allowance. Therefore, Applicants respectfully request the withdrawal of rejections under 35 U.S.C. § 103(a) with regards to amended claims 28, 30, and 31 for the reasons set forth above.

Further remarks with regard to the patentable distinctions of Applicants' claimed invention in amended claims 30 and 31 over the TCP specification and Grooters are provided below.

With respect to claim 30, which depends from claim 28, Examiner states

(a) that TCP/Grooters teaches of an integrity element (header) that comprises a size value (paragraph 2 on page 17). Applicants respectfully reiterate that that the "TCP length is the TCP header length plus the data length in octets (*this is not an explicitly transmitted quantity, but is computed*), and it does not count the 12 octets of the pseudo header." (TCP specification, page 17) [Emphasis added] Applicants respectfully point out that Applicants amended claim teaches a frame size, Applicants claim the integrity element as part of the signal to be transmitted, and thus Applicants' frame size *is* transmitted with the rest of the integrity element and frame.

(b) that it would have been obvious to one skilled in the art to include both the checksum operation and seed value. Examiner states that the need to transmit the operator along with the integrity element is not clear. Examiner states that it is unclear why the checksum operation and seed values are not uniformly agreed upon beforehand so as to save bandwidth and calculation time. Applicants respectfully note that, as Examiner has pointed out, it is common to agree in advance on the parameters of checksum operation. Applicants have freed the sender and receiver of this necessity by allowing the sender to dictate the checksum operation parameters.

(c) that checksums are typically calculated with XORs or summing in mod 2 arithmetic. Examiner states that the specifications do not teach of any checksum

calculation techniques other than XOR when speaking known techniques to calculate the checksum. Applicants respectfully point out that the reference to the XOR operator in the specification is in the form of an example: "Checksum value 407 is computed over the bytes making up a respective window 401a, 401b, 401c using known techniques such as exclusive ORing (XORing) each byte with its neighbor" (Applicants' specification, paragraph 79). Applicants can imagine other operators that could be used to calculate checksum, and Applicants' claims have not limited the invention to the XOR operator.

(d) that the need to transmit the operator along with the integrity element is not clear (especially if the only admitted operation is XOR). Examiner states that it is understood that checksum can be calculated various specific ways (i.e. CRC), the operator used is typically the XOR. To clarify, Applicants have provided the flexibility for the sender to dictate the mathematical operator to be used and provide that to the receiver for the calculation of the checksum. Sender and receiver do not have to agree on the operator in advance.

Since the TCP specification does not teach or suggest each and every element of Applicants' amended claim 30, either expressly or inherently, Applicants' amended claim 30 is not made obvious by the TCP specification and a rejection under 35 U.S.C. § 103(a) is inappropriate. Applicants respectfully request that Examiner withdraw the rejection under 35 U.S.C. § 103(a) directed to amended claim 30 and find amended claim 30 in condition for allowance. As stated above, TCP/Grooters do not substantially teach the limitations of amended claim 28, from which amended claim 30 depends, and therefore Applicants assert that amended claim 30 is in condition for allowance.

With respect to claim 31, Examiner states that Grooters discloses marked-up-language/XML documents (Fig. 3, server 212 or network 222). Examiner states that it would have been obvious to one skilled in the art to have the data signal contain an XML element. Examiner states that the frame/packet can be comprised of almost any type of transferable data. Applicants note that Grooters searches documents that

contain XML elements, but does not create Applicants' claimed at least one frame containing at least one XML element capable of modifying the operation of the receiving device.

Since the TCP specification and/or Grooters do not teach or suggest each and every element of Applicants' amended claim 31, either expressly or inherently, Applicants' amended claim 31 is not made obvious by the TCP specification and a rejection under 35 U.S.C. § 103(a) is inappropriate. Applicants respectfully request that Examiner withdraw the rejection under 35 U.S.C. § 103(a) directed to amended claim 31 and find amended claim 31 in condition for allowance. As stated above, TCP/Grooters do not substantially teach the limitations of amended claim 28, from which amended claim 31 depends, and therefore Applicants assert that amended claim 31 is in condition for allowance.

In view of the absence from any cited reference of Applicants' claimed invention as set forth above, Applicants respectfully urge that TCP, Grooters, and Specs, separately or in combination, are not sufficient to render the presently claimed invention obvious under 35 U.S.C. § 103.

### ***Allowable Subject Matter***

On page 24, paragraph 5, Examiner states that claims 29 and 32-33 are allowable over the prior art and would be allowed if rewritten to overcome the previously stipulated rejections under 35 USC § 101. Applicants respectfully assert that independent claim 29 (and claims 32 and 33 which depend therefrom) are allowable as written. Applicants respectfully call Examiner's attention to Applicants' argument regarding the rejection under 35 USC § 101.

### **Conclusion**

Claims 1-35 are believed to be in condition for allowance. All dependent claims are believed to depend upon allowable independent claims, and are therefore also in condition for allowance.

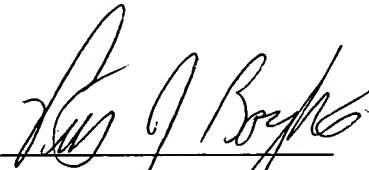
The present amendment adds 1 new independent claim (\$86) and 4 new total claims (at \$18 each for \$72) for a total additional fee of \$158. A check for \$158 payable to the Commissioner for Patents is enclosed to cover this fee. The Commissioner for Patents is authorized to charge additional fees or credit overpayment to Deposit Account No. 03-2410, Order No. 12078-140.

The following information is presented in the event that a call may be deemed desirable by the Examiner: Peter J. Borghetti (617) 854-4000

Respectfully submitted,  
Noah J. Ternullo et al., Applicants

Date: September 27, 2004

By: \_\_\_\_\_

  
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